

REMARKS**1. Claims Amendment**

Claims 1, 18, 35 have been amended to clarify that the thermopolymeric switching material melts at a temperature indicating the food is cooked to a desired temperature and doneness. No new matter has been added.

Claim 35 has been amended to incorporate the subject matter of Claims 38 and 41. No new matter has been added.

2. Definition Of "Thermopolymeric Switching Medium"

The examiner has requested a definition for the term "thermopolymeric switching medium". As defined by Applicant in Specification, and as known to those of ordinary skill in the art, the term "thermopolymeric switching medium" means the polymers that have a defined, sharp reaction at a particular temperature. For example, a "thermopolymeric switching medium" material can be a composition that has a defined, narrow melting temperature. "Thermopolymeric" materials can be organic or inorganic, and, as defined on page 3, lines 27-31 of the Specification, is a material with a well-defined thermal transition from a solid phase to a liquid phase. General examples of such materials are known.

3. Claim 1 Is Not Anticipated Under 35 USC 102 By US Patent No. 5144880 to Schmidt

Claims 1 and 18 have been rejected under 35 USC 102 as being anticipated by US Patent No. 5144880 to Schmidt (Schmidt '880). Applicants respectfully traverse this rejection.

Schmidt '880 fails to disclose a device having a thermopolymeric switching medium. Specifically, Schmidt '880 discloses a decorative device that contains a material that melts as it is heated and eventually allows the decorative element to be displaced. See, column 5, lines 24-30. As the melting point of the device in Schmidt '880 fails to correlate with the "doneness" of the food, the device is different from Applicant's device as claimed in Claim 1 or any claim dependant therefrom. The device

In Schmidt '880 is very specific in that it contains an "ordinary adhesive" that melts as it heated by the surrounding environment.

In contrast, Applicant's invention as claimed is a device that has a thermopolymeric material that melts when the food reaches a "doneness". In fact, the material in Applicant's device, as claimed, is a material that melts in a narrow band at the predetermined temperature indicating the food is cooked to the desired temperature and doneness.

Accordingly, Schmidt '880 does not anticipate Claim 1 of the present invention as it does not contain each and every limitation of Claim 1. Applicant respectfully requests that the Examiner reconsider and withdraw this ground for rejection.

4. Claims 1, 2, 18 And 19 Are Not Anticipated By Either Ou-Yang '730 Or By Ou-Yang '950.

Claims 1, 2, 18 and 19 have been rejected under 35 USC 102 as being anticipated by US Patent No. 5323730 to Ou-Yang (Ou-Yang '730) and by US Patent No. 5537950 to Ou-Yang (Ou-Yang '950). Applicants respectfully traverse this rejection.

Ou-Yang '730 and Ou-Yang '950 (collectively "the Ou-Yang patents") fail to disclose a device for indicating a food's "doneness" having or using a thermoplastic material. Specifically, the Ou-Yang patents disclose the use of an organic compound (straight or cyclic) that is able to remain solid at a temperature at or below 55 degrees Celsius. See, column 3, lines 1-5. While the disclosed organic compounds in the Ou-Yang patents do in fact have single melting points, such melting points are not reached as uniformly or do not melt as quickly as the present invention. See, e.g., column 7, lines 25-35. Further, the uniformity of the melting point can be compromised if impurities or additives are introduced into the material.

As such, as the material in the Ou-Yang patents cannot be characterized as a thermoplastic material, the Ou-Yang patents do not disclose each and every limitation of Claims 1, 2, 18 and 19, and the device in the Ou-Yang patents cannot anticipate Claims 1, 2, 18, 19, or any claim dependant therefrom.

5. Smith '054, Hefner '250, Gaku '811, And Walsh '083 Would Not Be Combined With A Prior Art Indicator And Therefore Cannot Be Combined To Support An Obviousness Rejection Under 35 USC 103.

The examiner has combined Smith '054, Hefner '250, Gaku '811 and/or Walsh '083 with prior art indicators (Schmit '880 or the Ou-Yang patents) to reject Claims 2-17, 18-34 and 36-43 as obvious under 35 USC 103. Applicants respectfully traverse these rejections.

Initially, not only are Claims 2-17, 18-34 and 36-43 dependant from allowable independent Claim 1, but Claims 2 and 14-17 have independently patentable elements. Specifically, the thermal indicator of Applicant's invention can have at least one emulsifier. The prior art does not disclose or teach the use of emulsifier, particular selected from the group consisting of lipids, long chain alcohols, lecithins, glycol lipids, quaternized amines with lipid tails, and charged ionic detergents, and combinations thereof. One of ordinary skill in the art would not combine a toxic resin, adhesive or an ink with a food indicator.

Specifically, a generic media (Schmit '880 or the Ou-Yang patents) would not be combined with a **toxic** hot melt adhesive (e.g. ink, adhesive, or the like) of the type in Smith '054. See, column 9, lines 50-60. More particularly, without inventive steps from the Applicants, one of ordinary skill in the art would not be inclined to include least one emulsifier or additive in an amount between 0.001% to 10% by weight. These percentages cannot be derived experimentally, without Applicant's disclosure, because the prior art fails to teach an indicator in which the switching media has an additive or other emulsifier.

Further, a generic media suitable with food would not be combined with a toxic hot melt adhesive containing olefin/CO linear polymers of the type in Hefner '250. As these polymers (e.g. olefins) tend to be very toxic, one of ordinary skill in the art would not combine such polymers with a food indicator or any material suitable for use with food. Without Applicant's inventive step, one of ordinary skill in the art would not be using additives or emulsifiers. Again, these percentages cannot be derived experimentally, without Applicant's disclosure, because the prior art fails to teach an indicator in which the switching media has an additive or other emulsifier.

Again, a generic media suitable with food would not be combined with a thermopolymeric cyanate material of the type in Gaku '811. Gaku '811 discloses an adhesive containing low-crystalline polyester resign, an ethyl acrylate copolymer and cyanate esters. See columns 13-15. While Gaku '811 does disclose the combination of an organic compound and a thermoplastic, the resultant is toxic and would not be used with a food indicator. As such, Gaku '811 would not be used with a food indicator without some other type of motivation or blueprint.

Finally, a generic media suitable for use with food would not be combined with an adhesive of the type disclosed in Walsh '083. Similarly to the other cited art, Walsh '083 discloses hot melt adhesives that contain relatively toxic components such as polyamines and other resins. See, e.g. column 4, lines 52-55. Again, while Walsh '083 does disclose the use of emulsifiers in the context of adhesive, it fails to disclose any application towards a food indicator. As such, Walsh '083 would not be used with a food indicator without some other type of motivation or blueprint

Thus, as the cited prior art is not of the type that would be combined by one of ordinary skill in the food sciences, and certainly would not be combined with products and devices for use with foods, Applicant requests that the examiner withdraw any rejection based on Smith '054, Hefner '250, Gaku '811, and/or Walsh '083.

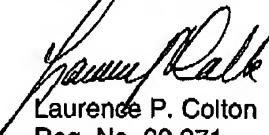
CONCLUSION

As the present invention is not fairly taught by and is not related to the subject matter of the cited references, the cited references cannot and do not anticipate or make obvious the present invention as claimed, and Applicant requests that these grounds for rejection be withdrawn.

Applicant submits that the patent application is in proper condition for allowance, and respectfully requests such action.

If the Commissioner or the Examiner has any questions that can be resolved over the telephone, please contact the below signed patent attorney of record.

Respectfully submitted,
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